

REMARKS

The Examiner is thanked for the thorough review and consideration of the present application. The non-final Office Action dated October 23, 2003 has been received and its contents carefully reviewed.

By this Response, Applicants have amended claims 1, 2, 9, 19 and 21. No new matter has been added. Claims 1-26 are pending in the application. Reconsideration and withdrawal of the rejections based upon the above amendments and the following remarks are requested.

In the Office Action, claims 1-2, 7, 9-10 and 23-24 are rejected under 35 U.S.C. § 102(b) as being anticipated by Applicant's admitted prior art (APA), figure 1C. Applicants respectfully traverse the rejection because APA fails to teach or suggest each and every feature recited in the claims of the present application. For example, APA fails to teach or suggest a system-on-panel typed liquid crystal display formed by a method that includes, among other features, "depositing and crystallizing amorphous silicon on the substrate to form a driver directly on the substrate in the second region; and depositing and crystallizing amorphous silicon on the substrate to form a control unit directly on the substrate in the third region, wherein the pixel array, driver and control unit are formed simultaneously", as recited in independent claim 1.

Applicants respectfully submit APA discloses a technique for manufacturing a LCD that is different from what is recited in the claims of the present application. In APA, "a controller made of single crystalline silicon and a CPU circuit are provided by separate processes and on a separate substrate" (Specification, page 4, lines 6-9). Applicants further submit that the description from the Specification for Fig. 1C includes "mounting a controller and a CPU circuit on a glass substrate" (see, Specification, page 4). Thus, APA does not teach "depositing and crystallizing amorphous silicon on the substrate to form a driver directly on the substrate in the second region; and depositing and crystallizing amorphous silicon on the substrate to form a control unit directly on the substrate in the third region, wherein the pixel array, driver and control unit are formed simultaneously", as recited in independent claim 1. Because APA does

not teach at least these features of claim 1, Applicants respectfully submit that claim 1 and its dependent claims 2, 7 and 23 are allowable over APA, figure 1C.

Claim 9 is allowable over APA because APA fails to teach or suggest a system-on-panel typed liquid crystal display formed by a method that includes “depositing and crystallizing amorphous silicon on the substrate to form a driver directly on the substrate in the second region; and depositing and crystallizing single crystalline silicon on the substrate to form a control unit directly on the substrate in the third region, wherein a pixel array, driver and control unit are formed simultaneously”. Because APA fails to teach or suggest at least these features of independent claim 9, and based upon the discussion above of APA, Applicants respectfully submit that claim 9 and dependent claims 10 and 24 are allowable over APA, figure 1C.

Reconsideration and withdrawal of the rejection of claims 1-2, 7, 9-10 and 23-24 are respectfully requested.

In the Office Action, claims 3-6, 8, 11-18, 21-22 and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant’s admitted prior art (APA), figure 1C, in view of U.S. Patent No. 5,696,388, issued to Funada et al. (hereafter “Funada”), and claims 19-20 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA, figure 1C in view of APA, figure 1A. Applicants respectfully traverse the rejections because neither the APA nor Funada, analyzed alone or in combination, teaches or suggests the combined features recited in the claims of the present application.

Claims 3-6 and 8 are allowable over APA and Funada because APA and Funada, singly or in combination, fail to teach or suggest a system-on-panel typed liquid crystal display formed by a method that includes depositing and crystallizing amorphous silicon on the substrate to form a driver directly on the substrate in the second region; and depositing and crystallizing amorphous silicon on the substrate to form a control unit directly on the substrate in the third region, wherein the pixel array, driver and control unit are formed simultaneously,” as recited in independent claim 1, from which claims 3-6 and 8 depend. Accordingly, claims 3-6 and 8 are allowable over any combination of APA and Funada.

Claims 11-18 are allowable over APA and Funada because APA and Funada, singly or in combination, fail to teach or suggest a system-on-panel typed liquid crystal display formed by a method that includes “depositing and crystallizing amorphous silicon on the substrate to form a driver directly on the substrate in the second region; and depositing and crystallizing single crystalline silicon on the substrate to form a control unit directly on the substrate in the third region, wherein the pixel array, driver and control unit are formed simultaneously,” as recited in independent claim 9, from which claims 11-18 depend. Accordingly, claims 11-18 are allowable over any combination of APA and Funada.

Claims 21-22 and 26 are allowable over APA and Funada because APA and Funada, analyzed alone or in combination, fail to teach or suggest a system-on-panel typed liquid crystal display formed by a method that includes forming a driver directly on the substrate at the second region, the driver having an active layer including polysilicon or single crystalline silicon deposited on the substrate; and forming a control unit directly on the substrate at the third region, wherein the control unit includes switching devices having at least one active layer formed of single crystalline silicon, wherein the pixel array, driver and control unit are formed simultaneously on the substrate,” as recited in independent claim 21. Accordingly, claim 21 and dependent claims 22 and 26 are allowable over any combination of APA and Funada.

Reconsideration and withdrawal of claims 3-6, 8, 11-18, 21-22 and 26 are respectfully requested.

Claims 19-20 and 26 are allowable over APA, figures 1C and 1A because figures 1C and 1A fail to teach or suggest a system-on-panel liquid crystal display formed by the method comprising “forming a driver directly on the substrate at the second region, the driver having an active layer including polysilicon or single crystalline silicon deposited on the substrate; and forming a control unit directly on the substrate at the third region, the control unit having an active layer including polysilicon or single crystalline silicon deposited on the substrate, wherein the control unit includes switching devices having at least one active layer, and wherein the pixel array, driver and control unit are formed simultaneously on the substrate,” as recited in independent claim 19. Applicants respectfully note Fig. 1C is directed to a technique for manufacturing a system-on-panel in which the CPU circuit and controller are mounted, in

separate processes, on a glass substrate. And, Fig. 1C illustrates amorphous silicon thin film transistors deposited on a glass substrate as the switching device. However, neither Fig. 1C nor 1A teaches or suggests a system-on-panel liquid crystal display formed by a method that includes at least the combined features recited in independent claim 19. Accordingly, claim 19 and dependent claims 20 and 25 are allowable over APA, figures 1C and 1A. Reconsideration and withdrawal of the rejection of claims 19-20 and 25 are requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

If these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. §1.136 for the necessary extension of time. The Applicant hereby authorizes the Commissioner of Patents to charge any fees necessary to complete this filing, including any fees required under 37 C.F.R. §1.136 for any necessary Extension of Time to make the filing of the attached documents timely, or credit any overpayment in fees, to Deposit Account No. 50-0911. A duplicate copy of this paper is enclosed.

Dated: April 23, 2004

Respectfully submitted,

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